

# Enabling connectivity and interoperability of European railways

Presentation to Telematics Expert Groups (TEG) Plenary

25 May 2023, Frankfurt

# Hit Rail's shareholders are the railways

**ADIF** - Spain  
**CD** - Czech Republic  
**DSB** - Denmark  
**TIETOEVRY** - Sweden  
**FSI** - Italy  
**MAV** - Hungary

**ÖBB** - Austria  
**SBB** - Switzerland  
**SNCB** - Belgium  
**SNCF** - France  
**SZ** - Slovenia  
**ZSR** – Slovakia



and Hit Rail's customers are all railways as well

**More than 60 railway companies are customers of Hit Rail**

Hit Rail is an **affiliate member of UIC** and a **partner member of CER**



# Hit Rail's mission

Hit Rail's mission *is to*

- *contribute to the success of the railway sector*
- *by providing commonly defined,*
- *collaborative and innovative IT solutions.*



**Hit Rail has moved from providing only connectivity services (Hermes VPN) ...**

**...to providing a wider range of IT services with a focus on interoperability, supporting both:**

- **The adoption of TAF/TAP TSI and**
- **The implementation of the CER/UIC/CIT Ticketing Roadmap**

## **Hit Rail IT services are:**

- TAF/TAP TSI Common Interface as a Service**
- TAP B.5 Passenger Reservations Real Time Translator for UIC 90918-1**
- OSDM Translator for UIC 90918-1**
- UIC eTCD (electronic Ticket Control Database)**
- UIC DRTF (Database for Rail Tariffs and Fares – OSDM offline)**

<b>Hit Rail IT service</b>	<b>Interoperability for TAF/TAP TSI</b>	<b>Enables Ticketing Roadmap</b>
<b>Common Interface as a Service</b>	<b>Yes (TD 104)</b>	<b>NA</b>
<b>Passenger Reservations Translator</b>	<b>Yes (TD B.5)</b>	<b>Yes</b>
<b>OSDM Translator for 90918-1</b>	<b>In process (TD B.5)</b>	<b>Yes</b>
<b>UIC eTCD</b>	<b>Yes (TD B.14)</b>	<b>Yes</b>
<b>UIC DRTF</b>	<b>Yes (TD B.13)</b>	<b>Yes</b>

# Enabling specific areas of the Ticketing Roadmap

Having more up to date timetables		
Being able to buy train tickets at least 6 and up to 12 months in advance		
<b>More up to date tariff exchange, enabling through tickets</b>	<b>→ UIC DRTF</b>	<b>Tool for distributing fares and prices across international railways.</b>
<b>European wide standardized API for selling train tickets</b>	<b>→ OSDM H2O/O2H Translator</b>	<b>OSDM is the new standard for online sales and distribution. Hit Rail will ensure Interoperability of OSDM with current standards.</b>
Increased harmonization of ticketing conditions (general conditions of use)		
<b>Full digitalization of tickets</b>	<b>→ UIC eTCD</b>	<b>Online real-time ticket control for international electronic tickets</b>
Real time information during the journey		
<b>Better support during disruptions and delays</b>	<b>→ UIC eTCD</b>	<b>Online real-time ticket control for international electronic tickets</b>

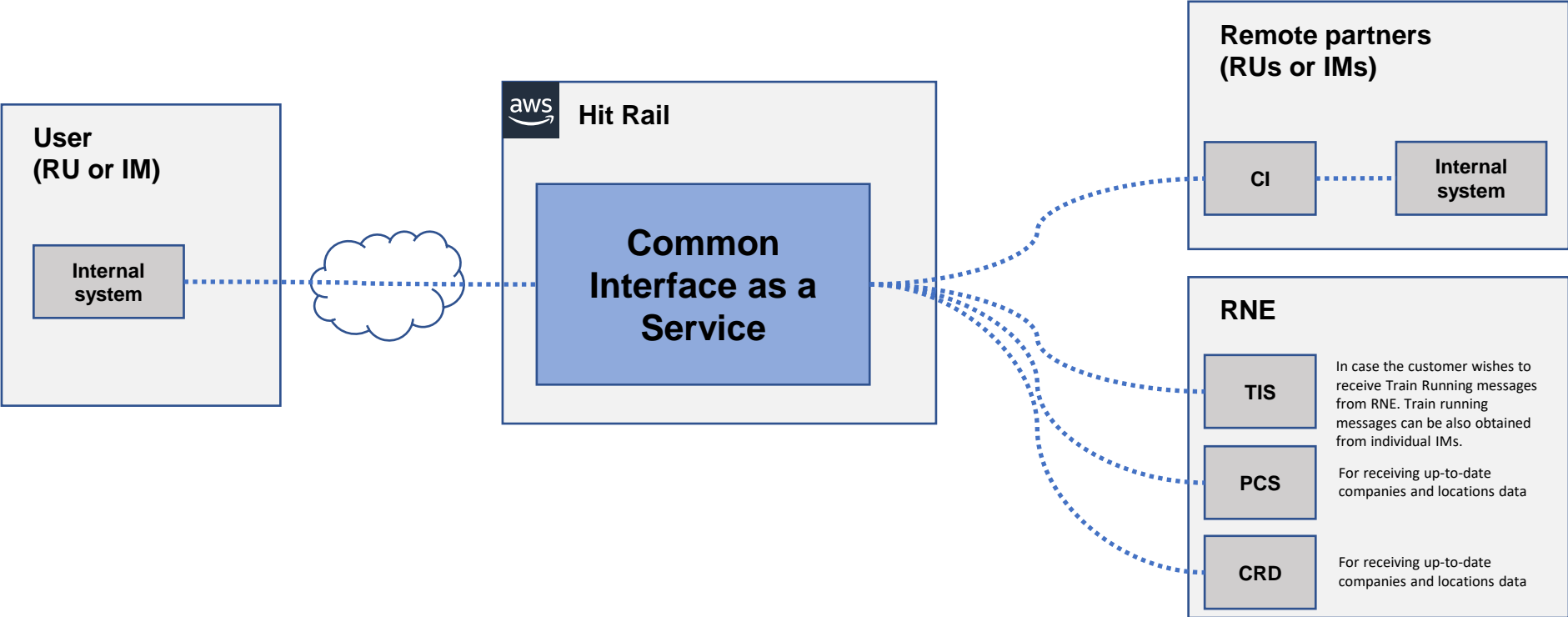


# → TAF/TAP TSI Common Interface as a Service



# Common Interface as a Service

- Hit Rail hosts and operates the CI as a service for RUs and IMs.
- The CI service acts as a gateway for TAF/TAP exchanges with RU or IM partners
- Also acts as a gateway for TAF/TAP exchanges with TIS, PCS and CRD of RNE
- Totally managed, no need to maintain, support, configure of train resources
- Using RNE’s Common Interface Reference Implementation

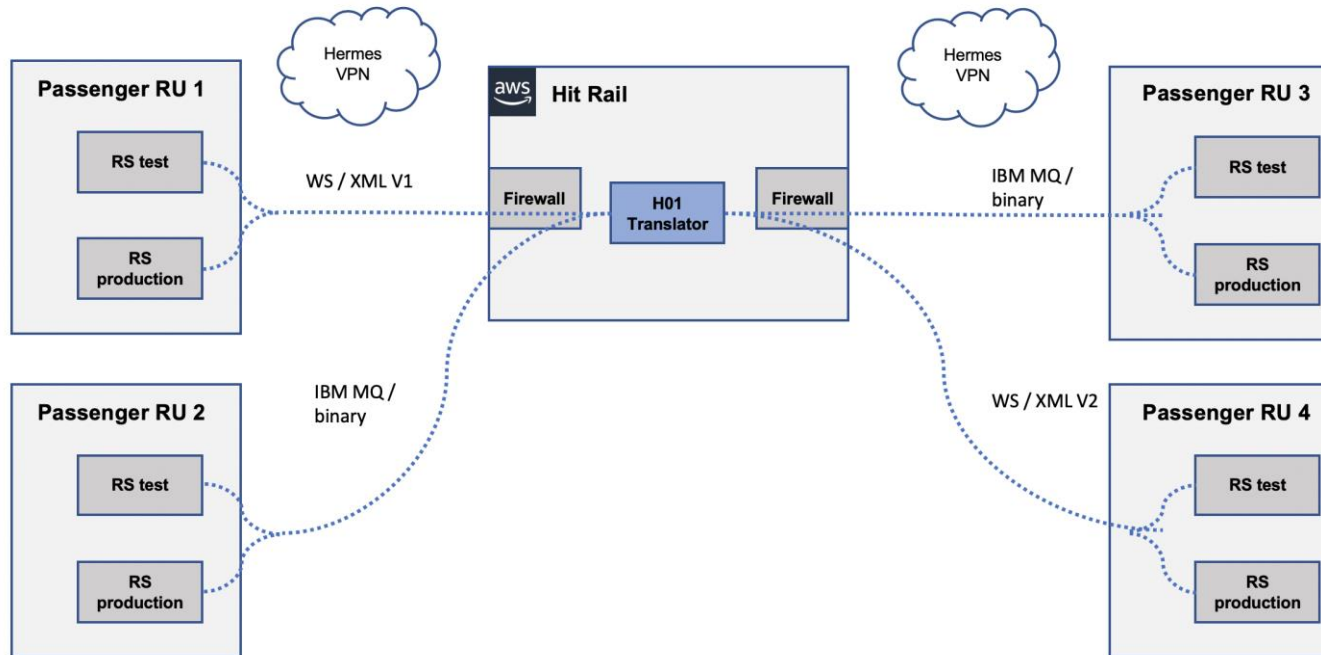


# → TAF/TAP TSI Passenger Reservations Translator



# TAP B.5 Passenger Reservations Translator

- UIC 90918-1 for passenger reservations is part of TAP/TSI TD B5
- Passenger RUs use different versions of the protocol, in either binary or XML V1 and V2
- Hit Rail ensures fully real-time interoperability
- Currently processing 1,6 million transactions per day



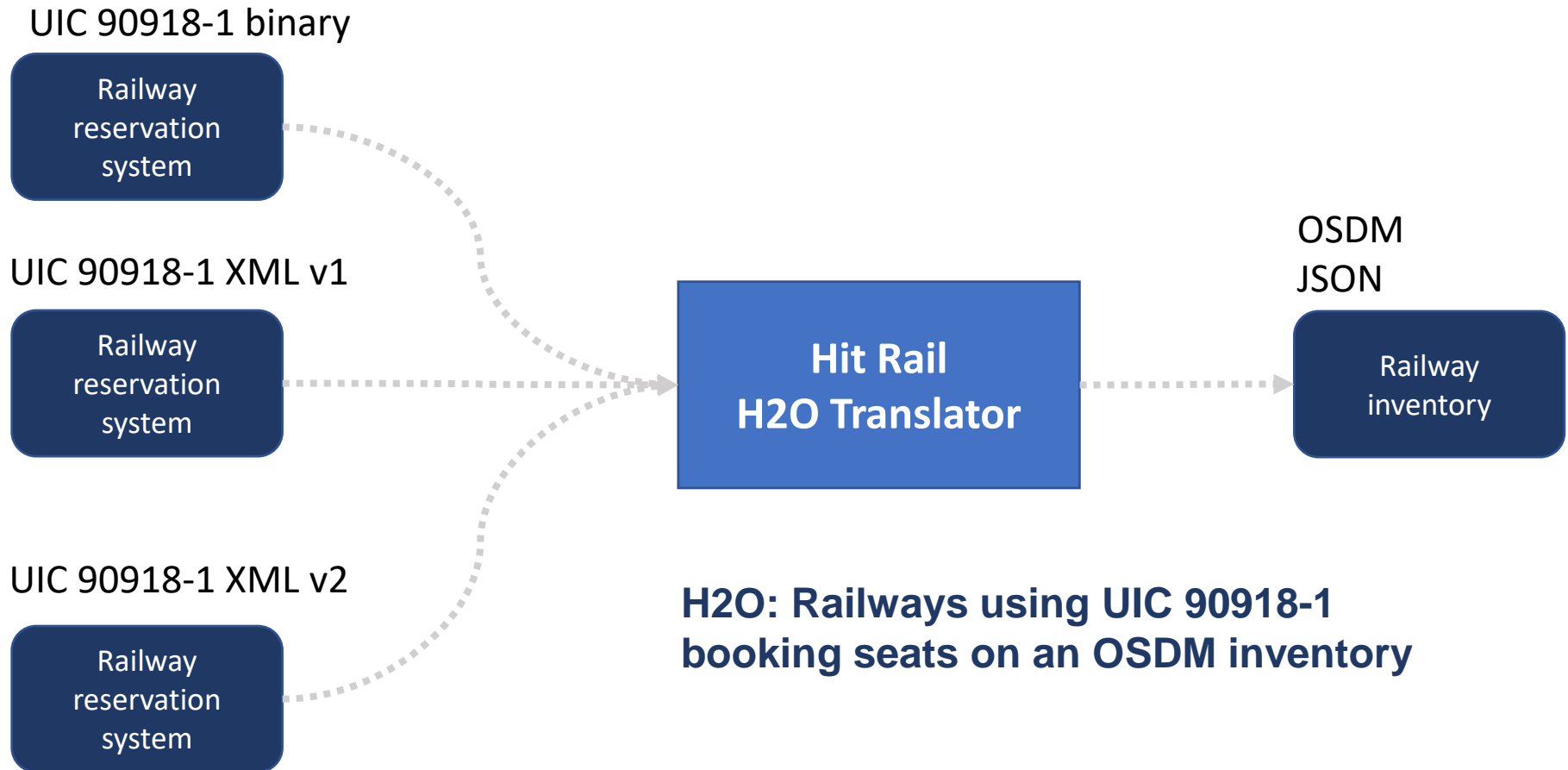
# → Passenger Reservations Translator for OSDM (H2O/O2H)



# Description of the OSDM (H2O/O2H)

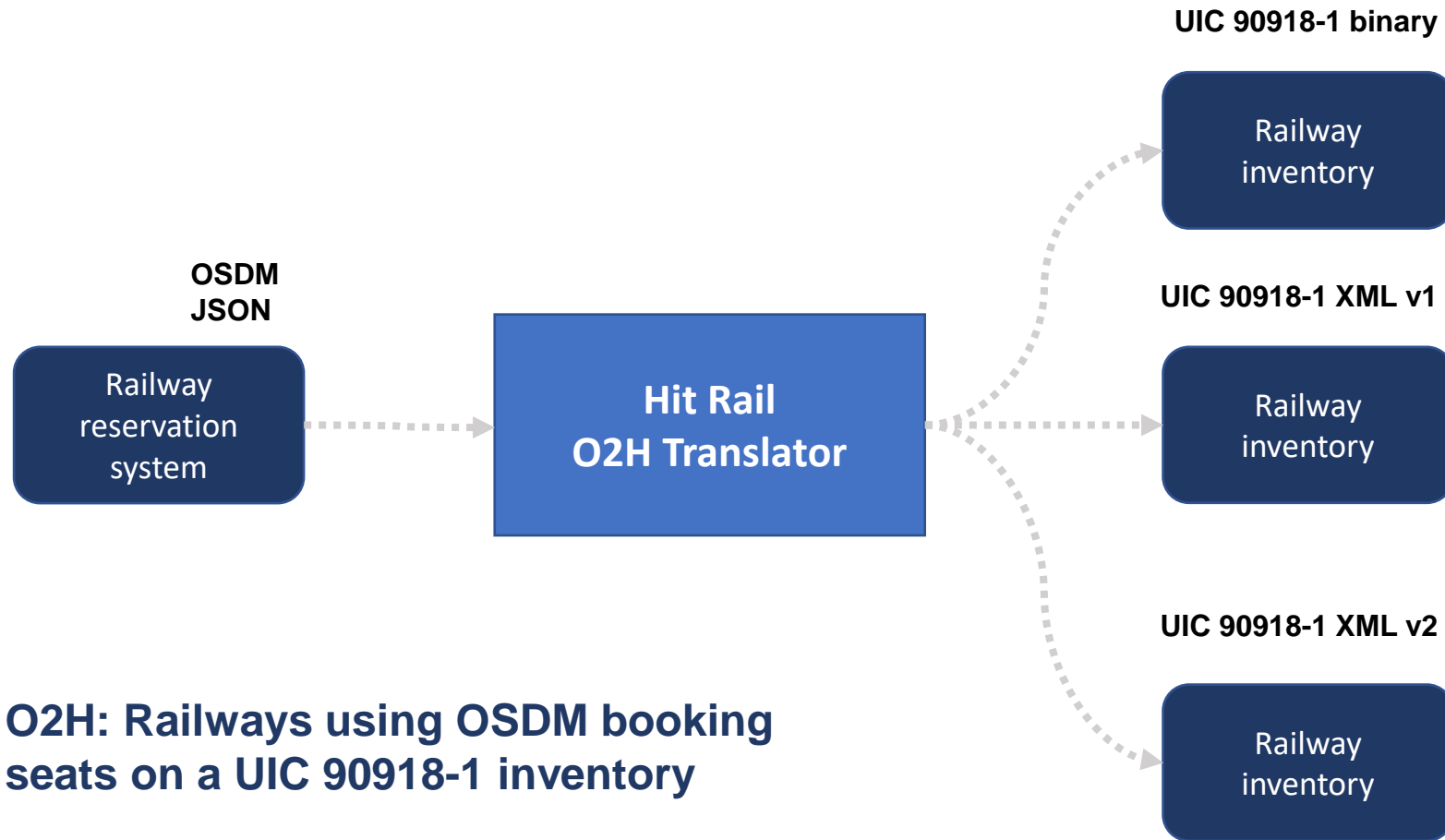
- **OSDM: Open Sales and Distribution Model is the upcoming European wide standardised API envisioned on the Ticketing Roadmap**
- **It will gradually replace older protocols used for reservations between railways (UIC 90918-1 / TAP TSI TD B5) and soon to become also a part of TD B.5**
- **Hit Rail will ensure interoperability between the old and new protocols to facilitate the gradual adoption of OSDM**

# OSDM H2O Translator



**H2O: Railways using UIC 90918-1 booking seats on an OSDM inventory**

# OSDM O2H Translator



**O2H: Railways using OSDM booking seats on a UIC 90918-1 inventory**



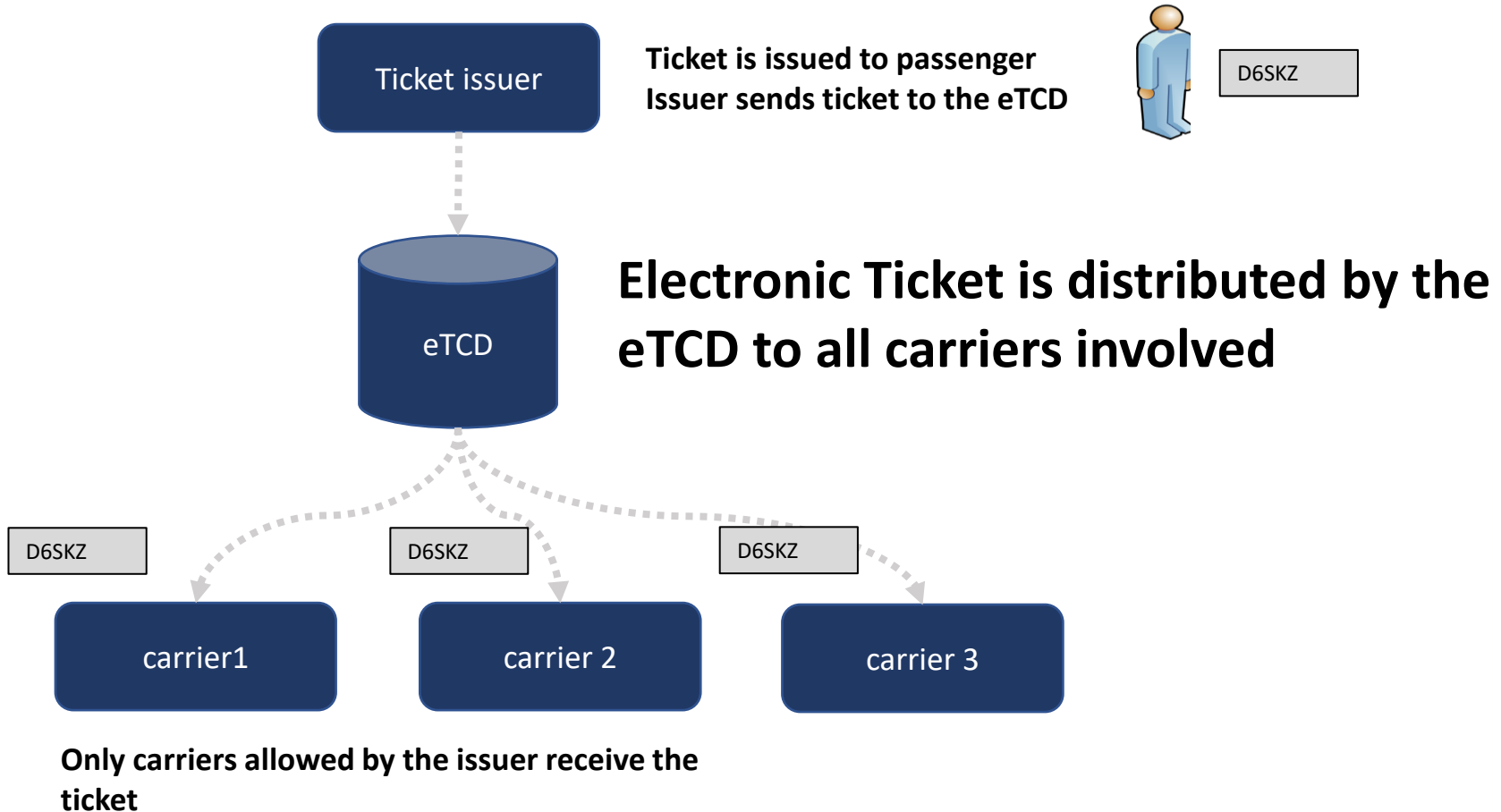
# → UIC eTCD electronic Ticket Control Database



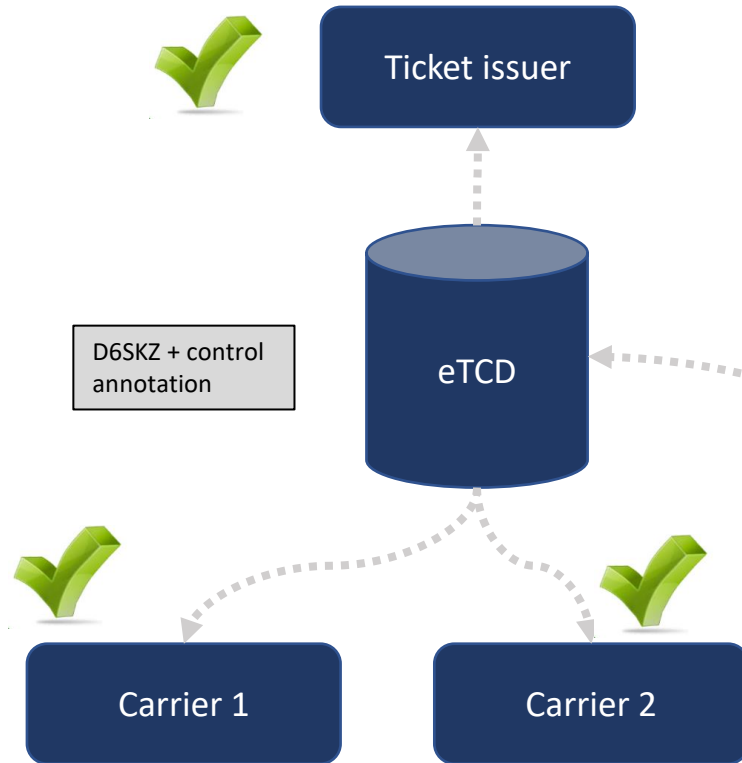
# UIC eTCD

- **eTCD is a UIC service, developed, maintained and supported by Hit Rail**
- **Used for e-ticketing real time control across international railways**
- **Using the UIC 90918-4 JSON standard, soon to become a part of ERA TAP TSI (TD B.14)**
- **In 2022, 12 million new tickets were stored in eTCD**

# UIC eTCD

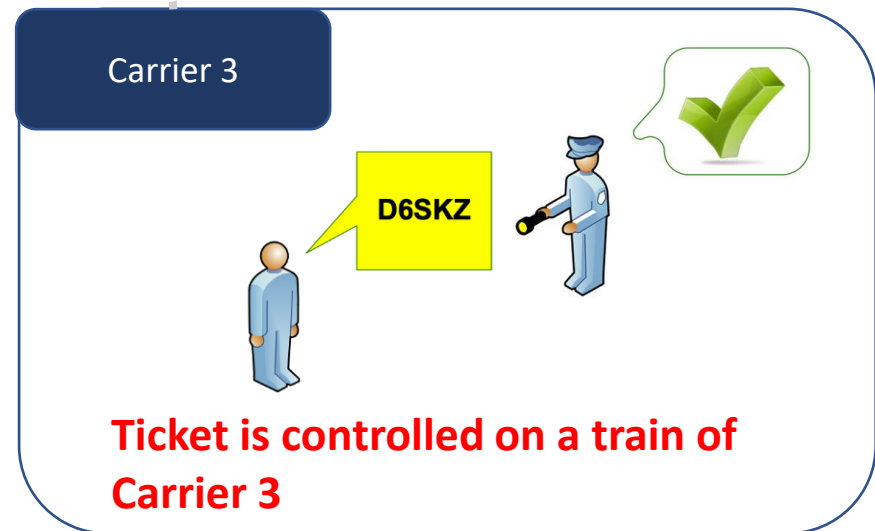


# UIC eTCD for ticket control

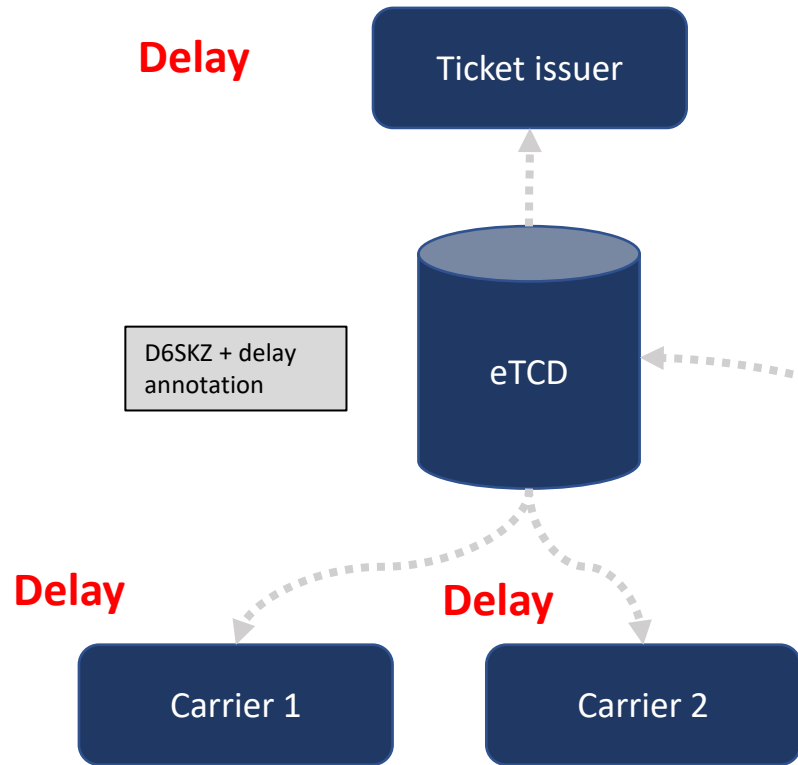


**Ticket issuer receives the control annotation**

**The eTCD distributes the control annotation to other carriers in real time**

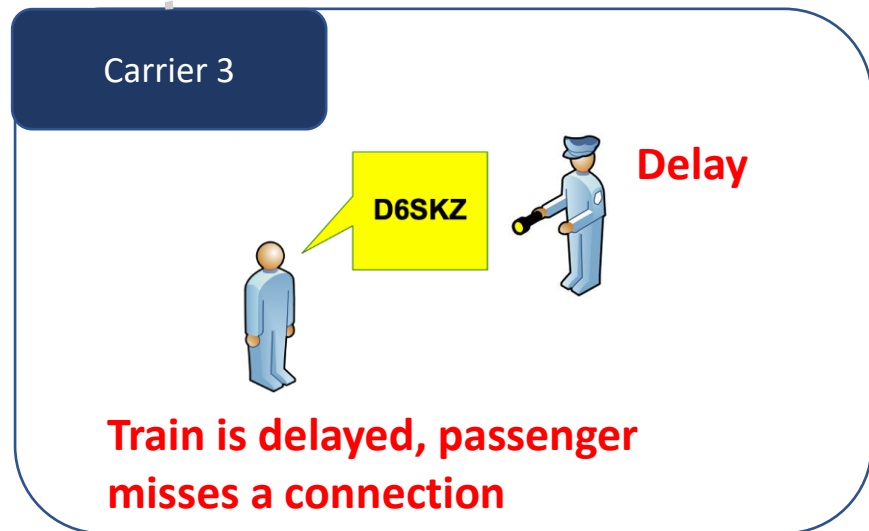


# UIC eTCD for journey continuation



Other carriers receive the delay annotation and accept the passenger on alternative services

The eTCD can also distribute delay annotations, playing a future role on ensuring journey continuation



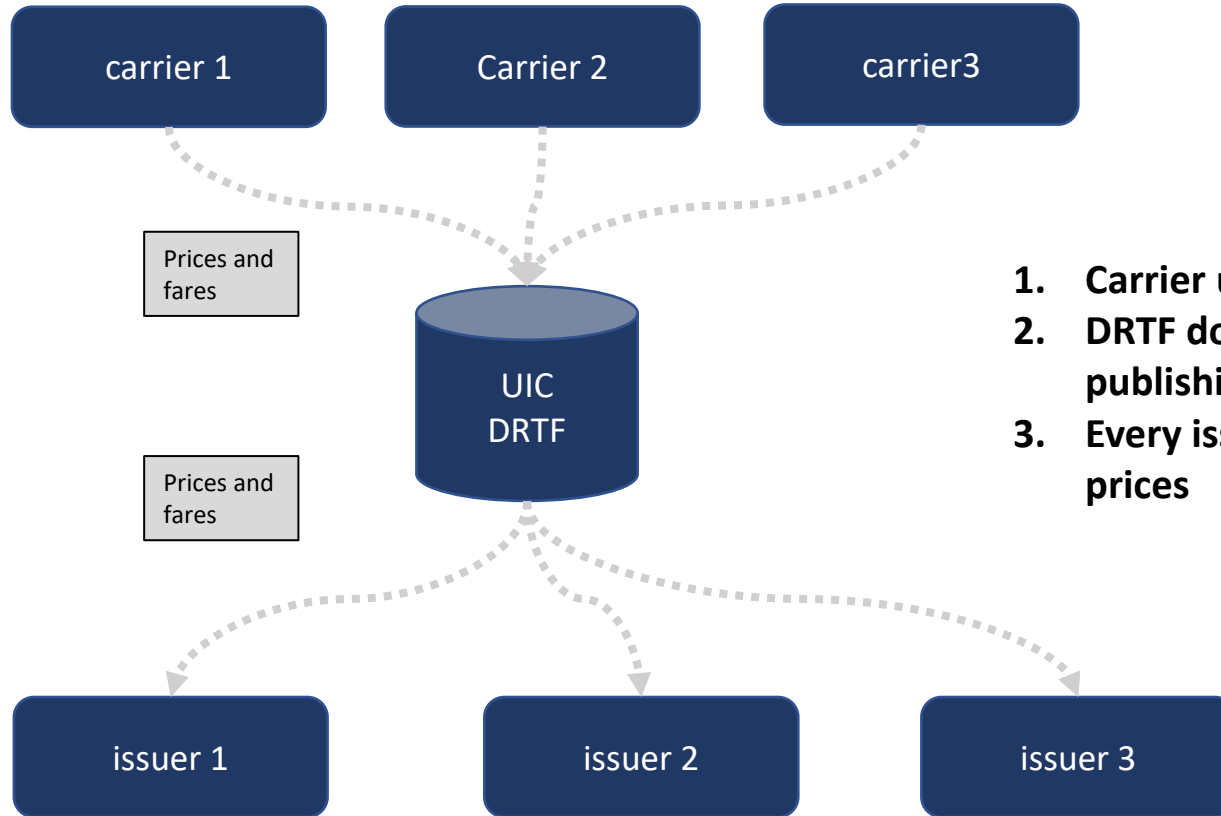
# → UIC DRTF

**Database for Rail Tariffs and Fares –  
OSDM offline**

# UIC DRTF

- **DRTF is a UIC service, developed, maintained and supported by Hit Rail**
- **Distributing tariffs and fares to more than 30 railways**
- **Using the OSDM offline JSON standard, soon to become a part of ERA TAP TSI (TD B13)**
- **In 2022, DRTF managed 58 million of tariffs and fares**

# UIC DRTF



1. Carrier uploads its own prices and fares
2. DRTF does authentication, validation, publishing and notification
3. Every issuer downloads carriers' fares and prices



# Areas of research / interest

- **RealTime information for PRR, also included in the Ticketing Roadmap**
- **Integration of TSI train running with retail information for RealTime**
- **Journey continuation based on eTCD**
- **Interoperability/Translation between railways formats and NETEX/SIRI, GTFS**

# Way forward to 2025

- **UIC eTCD and UIC DRTF services are already in place**
- **OSDM H2O, O2H will be in service at the end of 2023**
- **Other services related to the Ticketing Roadmap, like a common solution for RealTime, will be realised before 2025**
- **Hit Rail is pleased to assist and play a role in enabling further commonly-defined solutions and helping to realise the TAF/TAP TSIs and the Ticketing Roadmap**

# Hit Rail contribution

**Hit Rail helps the sector's goals by implementing and operating:**

- **Central, cloud-based systems**
- **Based on commonly-defined railway open standards**
- **Mutualising the costs, on a neutral and not-for-profit basis**
- **In collaboration with other railway organisations**

**Thank you for your attention!**  
**Your questions are welcome**

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